



BERMUDA MERCHANT SHIPPING INFORMATION NOTICE

Notification of Damage to LNG Cargo Tanks Due to Failed Cable Tray in Cargo Tank No. 1

Notice to all Vessel Owners, Ship Operators and Managers, Masters and Officers of Type 2G Bermuda Registered LNG Carriers

This Bermuda Merchant Shipping Information Note (“BMIN”) is issued following the same type of incident occurring on two different Bermuda registered type 2G Membrane Tank LNG carriers. In both cases parts of a cable tray leading to the cargo pump had fallen from the upper support level into the tank when it was loaded with cargo. Due to sloshing effects the cable tray then moved extensively within the tank and caused multiple perforations of the primary membrane/barrier. These incidents both lead to an unplanned dry docking to complete the necessary repairs.

On both ships the cable tray nuts and bolts in other locations were found to be correctly tack welded, but in some places the nuts had not been tightened sufficiently prior to tack welding.

Possible failure modes:

- Movement of cable tray caused by sloshing effects and pump tower vibration, particularly during cargo operations
- In one instance the cable tray cover bolts were not tack welded and in the other the tack welds on the cable tray lower support bolts failed
- In both cases the bolts loosened over time due to vibration and sloshing effects
- In the first instance the cable tray cover fell into the tank once the bolts came loose
- In the second instance the cable tray was hanging on the welded upper supports only, which eventually failed through fatigue under cargo sloshing effects



Both vessels were built at Daewoo Shipbuilding and Marine, Republic of Korea and delivered between 2004 and 2008.



Fig. 1: Location of fallen cable tray



Fig. 2: Cable tray following repair

For more information please contact: survey@bermudashipping.bm

Chief Surveyor

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